

REMARKS

I. Introduction

Claims 13 to 24 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Rejection of Claims 13, 17, 20 and 22 to 24 Under 35 U.S.C. § 102(b)

Claims 13, 17, 20 and 22 to 24 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 1,341,478 ("Platt et al."). It is respectfully submitted that Platt et al. do not anticipate the present claims for at least the following reasons.

Claim 13 relates to a fuel injector including: a valve seat; a valve-closure member, which cooperates with a sealing seat of the valve seat; a flow exit region for fuel situated downstream from the sealing seat; and projections, which influence fuel flow, situated in the flow exit region; wherein the projections are discontinuous in a direction transverse to a flow direction of the fuel. Although Applicants may not agree with the merits of the rejection, to facilitate matters, claim 13 has been amended without prejudice to recite, in relevant part, that **the projections are formed on the fuel injector and are discontinuous in a direction approximately perpendicular to a flow direction of the fuel**. Support for this amendment may be found, for example, in Figures 1, 2, 5 and 8 of the present Application, where the projections 22 are clearly situated on the fuel injector and are discontinuous in a direction parallel to second flow edge 19, which direction is approximately perpendicular to the flow direction of fuel 20.

Platt et al. do not disclose, or even suggest, the above-mentioned feature, but describe a cylinder chamber having an inclined cylinder wall (9) having trough-shaped grooves (10), via which which ridges or ribs (11) form automatically between grooves (10). The spray of injection valve (13) is injected against the inclined cylinder wall having trough-shaped grooves (10). Inclined cylinder wall (9) is part of cylinder head (1). In contrast, claim 1 of the present application provides that projections are formed **on the fuel injector**, and not on the cylinder head. The technical effect is also completely different: Using the fuel injector of claim 1, the atomization of the fuel is improved and thus the average droplet diameter of the

spray reduced, while in Platt et al., a uniform vaporization of the fuel is achieved (see page 1, lines 99 to 107). It is decisive for the functioning of the fuel injector of claim 1 that the projections are disposed on the fuel injector, downstream from the valve seat, since in this position, a single, cohesive injection spray that may be atomized still exists. At the cylinder wall of Platt et al., the injection spray is already atomized, so that it is no longer possible to reduce the average droplet diameter. In addition, the dimensions of the projections on the fuel injector according to claim 1 are many times smaller than those of ridges (11) on the cylinder wall of Platt et al. Furthermore, the projections of claim 1 are designed as a multitude of individual, single-point (discontinuous) projections and not as linear projections. Moreover, as is apparent from Figure 2 of Platt et al., the direction of a line segment, which connects the peaks of ridges (11) and is parallel to inclined wall (9), is not at all perpendicular to a flow direction of fuel ejected by fuel sprayer (13). Accordingly, it is respectfully submitted that Platt et al. do not anticipate claim 13 for at least these reasons.

As for claims 17, 20 and 22 to 24, which ultimately depend from claim 13 and therefore include all of the features of claim 13, it is respectfully submitted that Platt et al. do not anticipate these dependent claims for at least the reasons set forth above in support of the patentability of claim 13.

As for claims 17 and 20, it is respectfully submitted that Platt et al. do not anticipate these claims for the following additional reasons.

As regards claim 17, contrary to the contention appearing on page 2 of the Office Action, Platt et al. nowhere mention that a height of the ridges (11) is less than 100 micrometers.

As regards claim 20, contrary to the contention appearing on page 2 of the Office Action, the ridges (11) in the cylinder head (8) of Platt et al. do not have a cylindrical, tetrahedral, pyramidal, conical, prism-like, rectangular, semispherical or nub-type shape.

Accordingly, it is respectfully submitted that Platt et al. do not anticipate claims 17 and 20 for these additional reasons.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

III. Rejection of Claims 14 to 16, 18, 19 and 21 Under 35 U.S.C. § 103(a)

Claims 14 to 16, 18, 19 and 21 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Platt et al. and U.S. Patent No. 5,613,471 ("Yaoita"). It is respectfully submitted that the combination of Platt et al. and Yaoita does not render these claims unpatentable for at least the following reasons.

Claims 14 to 16, 18, 19 and 21 ultimately depend from claim 13 and therefore include all of the features of claim 13. As set forth above, Platt et al. do not disclose, or even suggest, all of the features of claim 13. In addition, Yaoita does not disclose, or even suggest, all of the features of claim 13 not disclosed or suggested by Platt et al. Accordingly, it is respectfully submitted that the combination of Platt et al. and Yaoita does not render unpatentable claims 14 to 16, 18, 19 and 21, which depend from claim 13.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

IV. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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